EVALUATING TWO INSTRUCTIONAL WEBSITES

SOROTH SAN

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I. INTRODUCTION

As an English Lecturer at the University of Puthisastra, a medical university in Cambodia, I have primarily taught General English to freshmen and sophomores. My responsibilities extended beyond teaching, as I was also a member of the curriculum committee. However, I had no prior experience in curriculum design, which posed challenges in effectively contributing to the curriculum development process. Recognizing the need for professional growth, I sought opportunities to upskill myself and acquire the necessary knowledge and competencies to perform my job efficiently and effectively. In 2023, I signed up to Massive Open Online Courses (MOOCs), "Creating and Implementing Online Courses". I also explored platforms, such as Coursera, Alison, and Udemy to enhance my expertise. The comprehensive experiences with MOOCs and Coursera allowed me to learn new skills at my own pace and apply them to my professional career.

Although I had experience learning through online educational platforms, I had never undertaken a formal evaluation of instructional websites. This assignment presents a valuable opportunity to apply what I have learned about educational evaluation by assessing two prominent instructional websites that offer programming courses. For the sake of this assignment purpose, I have chosen Khan Academy and Coursera, two well-established platforms that provide engaging and structured learning experiences for learners at different career stages. The evaluation focuses on courses related to Programming Foundations with JavaScript, HTML, and CSS, which are essential for individuals interested in web development.

Website #1: Khan Academy: https://www.khanacademy.org/computing/computer-programming

Website #2: Coursera: https://www.coursera.org/learn/duke-programming-web - outcomes

Website#1 Khan Academy: Computer Programming

Description: Khan Academy is a nonprofit educational platform that provides free, high-quality learning resources across various disciplines. The Computer Programming section offers interactive tutorials in JavaScript, HTML, and CSS, providing learners with hands-on coding practice. The platform integrates text-based explanations, video lectures, and live coding exercises, ensuring an engaging and effective learning experience.

Goal of the Course:

The primary goal of the Computer Programming course is to introduce learners to foundational programming concepts and equip them with basic coding skills, enabling them to create simple interactive programs and web applications.

Objectives:

Not specified.The course does not explicitly list objectives in every section, but it systematically builds programming knowledge through structured lessons and exercises that promote problem-solving and computational thinking. While not formally presented as "objectives", Khan Academy clearly outlines the learning goals and key concepts for each course and lesson. This effectively serves as the "objective" of the learning path, helping students understand the outcomes they should achieve by completing the content.

This is an example of how Khan Academy's Computer Programming course states key concepts of the course and lesson:

> "Learn how to use HTML and CSS to make webpages. HTML is the markup language that you surround content with, to tell browsers about headings, lists, tables, and more. CSS is the stylesheet language that you style the page with, to tell browsers to change the color, font, layout, and more."

Target Audience: Khan Academy is designed for students, teachers, and lifelong learners of all ages. It is particularly useful for beginners and self-paced learners who want to develop programming skills without financial barriers.

Website #2 Coursera's Duke University: Programming Foundations with JavaScript, HTML, and CSS

Description:

Coursera is a global online learning platform that partners with top universities and institutions to offer high-quality, flexible courses. The "Programming Foundations with JavaScript, HTML, and CSS" course, developed by Duke University, provides structured instruction on essential web programming concepts. The course includes video lectures, coding assignments, and quizzes to reinforce learning, ensuring a well-rounded educational experience.

Goal of the Course:

The course aims to introduce learners to core web programming principles, enabling them to design and develop basic interactive web pages using JavaScript, HTML, and CSS. It also emphasizes problem-solving and computational thinking skills.

Objectives:

Clearly specified. On Coursera, each course includes a clearly defined "Objective" section that outlines the main goals and learning outcomes students can expect to achieve. This section is visible on the course landing page, allowing students to preview the course details before enrolling.

This is an example of how the 'objective' is stated for Coursera's Duke University course:

> "**Build your subject-matter expertise**
>
> This course is part of the Java Programming and Software Engineering Fundamentals Specialization.
> When you enroll in this course, you'll also be enrolled in this Specialization.
>
> - Learn new concepts from industry experts
> - Gain a foundational understanding of a subject or tool
> - Develop job-relevant skills with hands-on projects
> - Earn a shareable career certificate"

Target Audience:

Coursera caters to students, professionals, and career changers looking to develop foundational programming skills. It is particularly beneficial for individuals seeking structured learning with the option of obtaining industry-recognized certification for career advancement.

II. EVALUATION FORM AND PROCESS

A. Evaluation Process of the Two Instructional Websites

To ensure an effective and reliable evaluation of the selected instructional websites, an evaluation form has been employed as the primary assessment tool (Harmon & Reeves, 1998). This tool consists of twelve key evaluation statements, each followed by sub-questions designed to facilitate a comprehensive analysis of the websites.

The evaluation instrument allows evaluators to assess their perceptions of agreement or disagreement with various statements using a subjective rating range. This five-point scale, spanning from -2 (Strongly Disagree) to 2 (Strongly Agree), provides both structure and flexibility in the assessment process (see Appendix A).

To enhance the clarity, relevance, and effectiveness of the evaluation process, the original evaluation form has been refined and justified to better align with the context of instructional materials and the specific purpose of this assignment (see Appendix B).

The revised aspects of the evaluation tool are explained below.

The term “content (instructional materials)” was used where appropriate to emphasize instructional materials, while “information (facts and accuracy)” was retained in cases where it refers to facts, accuracy, and reliability. This ensures clarity in assessing both the educational quality and factual accuracy of the websites being evaluated. All references in sub-questions were adjusted accordingly to maintain consistency and reinforce the distinction between course materials and general data or facts. Question 4 was revised to shift focus from "students" to "learners," making it more applicable to individuals evaluating the content for personal learning rather than classroom use. Sub-questions in Question 4 were modified to assess the suitability of content for learners' experience, prior knowledge, and ability to adjust the learning pace.

Other modifications include:

- Adding a question to the evaluation statement 2 for content revision tracking: “Does the site indicate version updates or content revisions?”
- Adding a question to the evaluation statement 3 to assess real-world applications. “Does the site include real-world applications or case studies?”
- Adding a question to the evaluation statement 4 to consider different learning styles: “Does the site support different learning styles through varied instructional methods (e.g., video, text, hands-on exercises)?”
- Adding a question to the evaluation statement 5: “Are key concepts explained with examples or illustrations?”
- Adding a question to the evaluation statement 6 to assess menu clarity: “Are navigation menus and toolbars clearly labeled and intuitive?”
- Adding a question to the evaluation statement 7 to include interactive coding exercises: “Are interactive exercises, such as coding environments or simulations, available to reinforce learning?”

- Adding a question to the evaluation statement 8 to evaluate guided learning paths: "Does the site offer guided learning paths or progress tracking?"
- Adding a question to the evaluation statement 9 for mobile responsiveness: "Is the site responsive and mobile-friendly?"
- Adding institutional credibility to the evaluation statement 10 for content reliability: "Is there a reputable institution or organization backing the site?"
- Evaluating financial aid and free trials in evaluation statement 11 to ensure accessibility.
- Revising evaluation statement 12 to ensure compliance with standard privacy measures.

B. Conducting the Evaluation of the Two Instructional Websites

I believe that anyone can be an evaluator as long as they apply established standards, clear criteria, and a well-defined perspective. Effective evaluation is further strengthened by extensive reading, critical inquiry, and engagement with open-source knowledge. Every evaluation, in essence, begins with an assumption or a framework that guides the process.

With this in mind, I have identified five essential characteristics of an ideal instructional website, drawing from principles of instructional design and cognitive science. These characteristics serve as a foundation for assessing the effectiveness, accessibility, and overall impact of educational platforms. The five key characteristics are as follows:

1. **Engaging**: Effective instructional websites use multimedia, storytelling, and interactive elements to maintain user interest and sustain motivation (Mayer, 2021). Engagement leads to deeper learning and knowledge retention.
2. **Accessible**: Following Universal Design for Learning (UDL) principles and WCAG standards ensures inclusivity for all learners, including those with disabilities (CAST, 2018). Accessibility is key for equitable education.
3. **Effective**: Instruction should align with learning objectives, apply evidence-based pedagogy such as Bloom's Taxonomy, and demonstrate measurable learning outcomes (Wiggins & McTighe, 2005). Effectiveness is measured by how well learners achieve intended competencies.

4. **Interactive**: Learning-by-doing, problem-solving, and hands-on activities improve learner engagement and comprehension (Merrill, 2012). Interactive components, such as quizzes and coding exercises, reinforce understanding through active participation.
5. **Credible**: High-quality instructional content is backed by subject-matter experts, peer-reviewed research, and reputable institutions (Muir, 2023). Up-to-date, accurate information ensures instructional integrity and learner trust.

C. Evaluation of Instructional Website #1: Khan Academy – Computer Programming

Educational Web Sites Evaluation Instrument

Harmon & Reeves – Copyright 1998

Directions: This instrument is meant to be used by teachers (pre-service or inservice) to evaluate Web sites that they might use for teaching and learning purposes with their students. Read the questions and sub-questions carefully before reviewing a site. After spending time with the site, go back through each question and rate it using the five-point scale. Sub-questions are intended to help in thinking about the major questions.

1. The information (facts and accuracy) in this site is accurate.

Sub-questions to ask yourself:

a. Does the information appear consistent with what you already know about the topic?

b. Does the site provide evidence that it comes from reputable sources?

c. Does the site contain any obvious biases, or is it maintained by an organization likely to have strong biases?

d. Does the site contain advertising that might limit the nature of the content?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Khan Academy delivers well-organized and reliable programming content, curated by experienced educators and industry experts. The instructional materials adhere to standard programming principles and best practices. Additionally, the platform is free from advertisements, minimizing distractions and ensuring an uninterrupted learning experience. There is no apparent bias or misleading information, maintaining the integrity of the educational content.

2. The information (facts and accuracy) in this site is current.

Sub-questions to ask yourself:

a. Is the information subject to change or is the content relatively stable?

b. If subject to change, when was the site last updated? Does the information appear up-to-date?

c. Does the site indicate version updates or content revisions?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The course content is regularly updated to reflect advancements in web development, incorporating the latest programming languages and frameworks widely used in the industry. While the most recent platform-wide update occurred in Summer 2024, this update was not specific to the course. However, Khan Academy remains committed to keeping its content relevant and up to date by continuously refining its offerings to align with industry standards.

3. The content (instructional materials) in this site is sufficient in scope.

Sub-questions to ask yourself:

a. Does this site contain sufficient breadth and depth of information related to your needs?

b. Does this site contain sufficient breadth and depth of information related to the topics it claims to cover?

c. Does the site include real-world applications or case studies?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The website covers a broad range of programming topics, including JavaScript, HTML, and SQL. It provides fundamental concepts as well as real-world applications, ensuring depth and breadth. For instance, in the JavaScript module, learners not only explore syntax and functions but also apply their knowledge by creating interactive animations and simple web applications.

4. The level of content (instructional materials) in this site is appropriate for learners.

Sub-questions to ask yourself:

a. Does the site contain content appropriate for learners' level of understanding and experiences with respect to their maturity?

b. Does the site contain content appropriate for learners with respect to their cognitive abilities?

c. Does the site contain content appropriate for your learners with respect to their prior knowledge of the topic?

d. Does the site support different learning styles through varied instructional methods (e.g., video, text, hands-on exercises)?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The site caters to different learning levels, from beginners to intermediate learners. It includes step-by-step explanations, interactive exercises, and progressive challenges that accommodate various learning paces.

5. The content (instructional materials) in this site is presented clearly.

Sib-questions to ask yourself:

a. Is the content arranged in an orderly fashion?

b. Is the content presented clearly?

c. Are key concepts explained with examples or illustrations?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Content is presented in an organized and logical manner. Instructions are straightforward, supplemented with visual aids and live coding examples that enhance comprehension.

6. Navigation on this site is user-friendly.

Sub-questions to ask yourself:

a. How easy is it to find content on this site?

b. How easy is it to move around on this site without getting lost?

c. Does the site provide multiple ways of accessing the same content (e.g., does the site have a built-in search capability)?

d. Are navigation menus and toolbars clearly labeled and intuitive?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Navigation is intuitive, with a structured curriculum and easily accessible lessons. The search function is effective, and users can track progress seamlessly.

7. Media is integrated effectively in this site.

Sub-questions to ask yourself:

a. Does the site make good use of graphics? Audio? Animation? Video?

b. Is the media used effectively in conveying the content?

c. Is the content in the site enhanced by the media in it?

d. Are interactive exercises, such as coding environments or simulations, available to reinforce learning?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The website makes excellent use of interactive coding environments, videos, and graphical explanations to reinforce learning. Real-time coding practice enhances engagement.

8. This site provides maps that clarify the site contents.

Sub-questions to ask yourself:

a. Does the site provide a clear overview of what it does contain?

b. Is it obvious what the site does not contain?

c. Does the site contain a map or table of contents that allows you to see what you have seen and not seen?

d. Does the site offer guided learning paths or progress tracking?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

While Khan Academy provides a structured learning path, it lacks a clearly defined syllabus or roadmap outlining course progression. Learners can track completed exercises, but a more explicit overview of upcoming topics and prerequisites would improve clarity and guidance.

9. This site exemplifies good web design.

Sub-questions to ask yourself:

a. Is it obvious how to interact with this site?

b. If needed, does the site contain a useful help section?

c. Are all the possible interactions on a page obvious?

d. Is the page aesthetically appealing?

e. Is the site responsive and mobile-friendly?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The website features a visually appealing and user-friendly design with seamless navigation. After testing it on my smartphone and computer, I can confirm that it is well-optimized for responsiveness and accessibility across multiple devices, including computers, smartphones, iPads, and tablets.

10. This site is a reliable source of information (facts and accuracy).

Sub-questions to ask yourself:

a. How often is the site down when you try to access it?

b. How long does it take for the pages of the site to come up at the time of day you most likely will use it?

c. Is the site likely to remain on the Web?

d. Is there a reputable institution or organization backing the site?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Backed by Khan Academy, a well-established educational platform, the site remains accessible with minimal downtime. I have used the website all day, but I haven't experienced any downtime at all. Moreover, the reliability of information is well-maintained.

11. The constraints of this site do not outweigh its value.

Sub-questions to ask yourself:

a. Does the site require extensions that must be downloaded and may present difficulties?

b. Does the site require one specific browser (e.g., Netscape Communicator or Internet Explorer)?

c. Does the site require hardware features that you may not have (e.g., sound card)?

d. Does the site contain features that require specific systems software (e.g., Windows '95)?

e. Are any fees associated with using the site?

f. If costs are involved, can site licenses be obtained?

g. Are financial aid or free trials available?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

There are no significant constraints, as the site is free and does not require additional software. Some advanced learners may need supplementary materials beyond the provided content.

12. This site protects the confidentiality of the user/learner.

Sub-questions to ask yourself:

a. Does the site require learners to submit information about themselves or their school before granting access? If so, what does it do with this information?

b. Does the site require "cookies" or other information about learners' systems?

c. Does the site comply with standard privacy policies and security measures?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

User data is well-protected, with privacy policies in place. No unnecessary personal information is required beyond basic login credentials, such as user's name, email and password.

D. Evaluation of Instructional Website #2 Coursera's Duke University: Programming Foundations with JavaScript, HTML, and CSS

Educational Web Sites Evaluation Instrument

Harmon & Reeves – Copyright 1998

Directions: This instrument is meant to be used by teachers (pre-service or inservice) to evaluate Web sites that they might use for teaching and learning purposes with their students. Read the questions and sub-questions carefully before reviewing a site. After spending time with the site, go back through each question and rate it using the five-point scale. Sub-questions are intended to help in thinking about the major questions.

1. The information (facts and accuracy) in this site is accurate.

Sub-questions to ask yourself:

a. Does the information appear consistent with what you already know about the topic?

b. Does the site provide evidence that it comes from reputable sources?

c. Does the site contain any obvious biases, or is it maintained by an organization likely to have strong biases?

d. Does the site contain advertising that might limit the nature of the content?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The course is developed by Duke University, a reputable institution, ensuring accuracy and credibility. The course materials align with industry best practices, covering web development concepts with modern frameworks and tools. Additionally, the platform is free from advertisements, minimizing distractions and ensuring an uninterrupted learning experience. There is no apparent bias or misleading information, maintaining the integrity of the educational content.

2. The information (facts and accuracy) in this site is current.

Sub-questions to ask yourself:

a. Is the information subject to change or is the content relatively stable?

b. If subject to change, when was the site last updated? Does the information appear up-to-date?

c. Does the site indicate version updates or content revisions?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The course content is periodically updated to reflect current web development trends. It includes up-to-date programming languages and frameworks commonly used in the industry. There is no specific date of updating this course. However, Coursera remains committed to keeping its content relevant and up to date by continuously refining its offerings to align with industry standards.

3. The content (instructional materials) in this site is sufficient in scope.

Sub-questions to ask yourself:

a. Does this site contain sufficient breadth and depth of information related to your needs?

b. Does this site contain sufficient breadth and depth of information related to the topics it claims to cover?

c. Does the site include real-world applications or case studies?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The course offers a comprehensive curriculum covering key web programming concepts, including HTML, CSS, JavaScript, and backend development. It provides theoretical explanations as well as practical applications. For example, in module 2, learners will learn the basics of HTML and CSS to design a web page. Over the course of the module, learners build their first web page, applying foundational concepts to a tangible project.

4. The level of content (instructional materials) in this site is appropriate for learners.

Sub-questions to ask yourself:

a. Does the site contain content appropriate for learners' level of understanding and experiences with respect to their maturity?

b. Does the site contain content appropriate for learners with respect to their cognitive abilities?

c. Does the site contain content appropriate for your learners with respect to their prior knowledge of the topic?

d. Does the site support different learning styles through varied instructional methods (e.g., video, text, hands-on exercises)?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Designed for beginners to intermediate learners, the course includes structured modules that progress logically. Prerequisites are clearly stated, and exercises cater to various learning levels.

5. The content (instructional materials) in this site is presented clearly.

Sib-questions to ask yourself:

a. Is the content arranged in an orderly fashion?

b. Is the content presented clearly?

c. Are key concepts explained with examples or illustrations?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Explanations are well-structured and supplemented with visual aids, coding exercises, and quizzes that reinforce learning. The step-by-step approach and examples enhance clarity.

6. Navigation on this site is user-friendly.

Sub-questions to ask yourself:

a. How easy is it to find content on this site?

b. How easy is it to move around on this site without getting lost?

c. Does the site provide multiple ways of accessing the same content (e.g., does the site have a built-in search capability)?

d. Are navigation menus and toolbars clearly labeled and intuitive?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The Coursera platform provides a seamless learning experience with easy navigation, structured modules, and progress tracking. Lessons are well-organized within the course.

7. Media is integrated effectively in this site.

Sub-questions to ask yourself:

a. Does the site make good use of graphics? Audio? Animation? Video?

b. Is the media used effectively in conveying the content?

c. Is the content in the site enhanced by the media in it?

d. Are interactive exercises, such as coding environments or simulations, available to reinforce learning?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The course incorporates high-quality video lectures, interactive exercises, and coding assignments that facilitate hands-on learning. Multimedia elements enhance engagement.

8. This site provides maps that clarify the site contents.

Sub-questions to ask yourself:

a. Does the site provide a clear overview of what it does contain?

b. Is it obvious what the site does not contain?

c. Does the site contain a map or table of contents that allows you to see what you have seen and not seen?

d. Does the site offer guided learning paths or progress tracking?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

Coursera provides a structured syllabus with clearly defined learning objectives and module progression. Learners can track their progress through a mapped curriculum, visible milestones, and completed lessons, ensuring a clear understanding of what has been covered and what remains.

9. This site exemplifies good web design.

Sub-questions to ask yourself:

a. Is it obvious how to interact with this site?

b. If needed, does the site contain a useful help section?

c. Are all the possible interactions on a page obvious?

d. Is the page aesthetically appealing?

e. Is the site responsive and mobile-friendly?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

The platform is visually appealing, responsive, and optimized for various devices. It provides an intuitive user experience. After testing it on my smartphone and computer, I can confirm that it is well-optimized for responsiveness and accessibility across multiple devices, including computers, smartphones, iPads, and tablets.

10. This site is a reliable source of information (facts and accuracy).

Sub-questions to ask yourself:

a. How often is the site down when you try to access it?

b. How long does it take for the pages of the site to come up at the time of day you most likely will use it?

c. Is the site likely to remain on the Web?

d. Is there a reputable institution or organization backing the site?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

As part of Coursera's offerings in collaboration with Duke University, the course is backed by a credible institution, ensuring reliable and high-quality content. I have used the website all day, but I haven't experienced any downtime at all. Moreover, the reliability of information is well-maintained.

11. The constraints of this site do not outweigh its value.

Sub-questions to ask yourself:

a. Does the site require extensions that must be downloaded and may present difficulties?

b. Does the site require one specific browser (e.g., Netscape Communicator or Internet Explorer)?

c. Does the site require hardware features that you may not have (e.g., sound card)?

d. Does the site contain features that require specific systems software (e.g., Windows '95)?

e. Are any fees associated with using the site?

f. If costs are involved, can site licenses be obtained?

g. Are financial aid or free trials available?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

While Coursera offers high-quality content, access to graded assignments and certification requires payment. However, the cost is reasonably affordable and learners can audit the course for free.

12. This site protects the confidentiality of the user/learner.

Sub-questions to ask yourself:

a. Does the site require learners to submit information about themselves or their school before granting access? If so, what does it do with this information?

b. Does the site require "cookies" or other information about learners' system?

c. Does the site comply with standard privacy policies and security measures?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

User data is protected under Coursera's privacy policies. No unnecessary personal information is required beyond basic login credentials, such as user's name, email and password.

III. COMPARISON OF KHAN ACADEMY AND COURSERA'S DUKE UNIVERSITY

In today's digital learning landscape, online education platforms provide valuable resources for learners at different stages of their programming journey. Two notable platforms, Khan Academy and Coursera's Duke University "Programming for the Web" course, offer structured web programming lessons. While both platforms serve educational purposes, they differ in key aspects, including structure, accessibility, depth, and learning experience.

Course Structure & Depth Khan Academy adopts a self-paced, interactive approach that allows learners to explore web programming concepts at their convenience. The course covers introductory programming topics, emphasizing foundational coding skills through interactive exercises. This structure is particularly beneficial for beginners who prefer a hands-on, experimental approach to learning.

Conversely, Coursera's Duke University course follows a structured university-level curriculum, with clear learning objectives, assessments, and projects. The course progresses through HTML, CSS, JavaScript, and backend technologies, ensuring learners develop a solid understanding of web programming. Coursera's structured modules provide a more comprehensive and industry-aligned learning experience for those seeking academic rigor and professional certification.
Learning Experience & Engagement Khan Academy's learning model focuses on gamified, interactive exercises, where users can write code and receive immediate feedback. This feature

fosters active learning and self-directed exploration, making it an excellent choice for beginner-friendly, exploratory education. The hands-on nature of its exercises enables learners to grasp coding fundamentals intuitively.

In contrast, Coursera's approach is lecture-based with guided projects, providing a more formal and in-depth learning environment. The combination of video-based instruction, quizzes, and peer-reviewed assignments encourages learners to apply concepts in structured ways. Coursera's discussion forums also facilitate interaction among peers, enhancing engagement through community learning.

Accessibility & Cost Khan Academy is entirely free and open to all, making it an attractive choice for learners seeking cost-effective education. There are no hidden fees, and learners have unlimited access to the course material without financial constraints.

Coursera, while offering a free audit option, requires payment for graded assignments and certification. The premium version of the course provides additional learning benefits, including instructor feedback and career-relevant certification. This makes Coursera a more suitable choice for individuals seeking formal recognition and career advancement opportunities.
Media & Interactive Elements Both platforms effectively integrate media and interactive learning tools. Khan Academy's coding editor is embedded directly into lessons, allowing users to practice coding in real-time. This feature enhances experiential learning, particularly for those new to programming.

Coursera employs high-quality video lectures, structured assignments, and practical projects, which provide a well-rounded educational experience. While it lacks live coding integration, the course compensates with real-world project applications that align with industry practices.
Certification & Career Relevance One major difference between the two platforms is certification and professional recognition. Khan Academy does not provide certificates or career-oriented credentials, making it a great resource for personal development and skill-building but less useful for job applications.

On the other hand, Coursera's course, backed by Duke University, offers an industry-recognized certification upon successful completion. This certification can be a valuable asset for learners looking to boost their resumes and validate their expertise in web development.

Conclusion Both Khan Academy and Coursera's Duke University course are excellent learning resources, each serving distinct educational needs. For beginners and self-paced learners, Khan Academy provides a free, interactive, and accessible coding environment. However, for those seeking a structured curriculum, professional certification, and industry-aligned instruction, Coursera's Duke University course is the better option. Ultimately, the choice depends on the learner's goals; whether they are looking for introductory, exploratory coding practice or structured learning with formal credentials.

IV. REFLECTION ON THE EVALUATION PROCESS

Completing this evaluation assignment was an insightful and rewarding experience. Throughout the process, I explored both Coursera and Khan Academy as learning platforms, gaining a deeper appreciation for their instructional design and educational impact. My prior experience with Coursera provided familiarity with its structured learning model, while Khan Academy's interactive style offered a fresh perspective on self-paced education.

One key lesson learned is that both platforms are invaluable resources for learners of all levels, professionals, and career growth seekers. They offer opportunities for upskilling and continuous learning in an evolving digital world. The realization that Khan Academy is completely free while Coursera remains affordable yet provides certification reinforced the accessibility of high-quality education.

The greatest challenge in this assignment was refining the evaluation form to align with the specific purpose of assessing instructional websites. I had to engage in comprehensive reading, critical self-questioning, and filtering of relevant information to ensure the evaluation criteria made sense for both platforms. Understanding the scope, purpose, and sources of the assignment was crucial in making an informed analysis. Despite the challenges, this task significantly improved my ability to apply evaluation skills effectively, making it a valuable learning experience.

V. APPENDICES

APPENDIX A:

Educational Web Sites Evaluation Instrument

Harmon & Reeves – Copyright 1998

Directions: This instrument is meant to be used by teachers (pre-service or inservice) to evaluate Web sites that they might use for teaching and learning purposes with their students. Read the questions and sub-questions carefully before reviewing a site. After spending time with the site, go back through each question and rate it using the five-point scale. Sub-questions are intended to help in thinking about the major questions.

1. The information in this site is accurate.

Sub-questions to ask yourself:

a. Does the information appear consistent with what you already know about the topic?

b. Does the site provide evidence that it comes from reputable sources?

c. Does the site contain any obvious biases, or is it maintained by an organization likely to have strong biases?

d. Does the site contain advertising that might limit the nature of the content?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

2. The information in this site is current.

Sub-questions to ask yourself:

a. Is the information subject to change or is the content relatively stable?

b. If subject to change, when was the site last updated? Does the information appear up-to-date?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

3. The information in this site is sufficient in scope.

Sub-questions to ask yourself:

a. Does this site contain sufficient breadth and depth of information related to your needs?

b. Does this site contain sufficient breadth and depth of information related to the topics it claims to cover?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

4. The level of information in this site is appropriate for my students.

Sub-questions to ask yourself:

a. Does the site contain information appropriate for your students with respect to their maturity?

b. Does the site contain information appropriate for your students with respect to their cognitive abilities?

c. Does the site contain information appropriate for your students with respect to their prior knowledge of the topic?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

5. The information in this site is presented clearly.

Sib-questions to ask yourself:

a. Is the information arranged in an orderly fashion?

b. Is the information presented clearly?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

6. Navigation on this site is user-friendly.

Sub-questions to ask yourself:

a. How easy is it to find information on this site?

b. How easy is it to move around on this site without getting lost?

c. Does the site provide multiple ways of accessing the same information (e.g., does the site have a built-in search capability)?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

7. Media is integrated effectively in this site.

Sub-questions to ask yourself:

a. Does the site make good use of graphics? Audio? Animation? Video?

b. Is the media used effectively in conveying the content?

c. Is the information in the site enhanced by the media in it?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

8. This site provides maps that clarify the site contents.

Sub-questions to ask yourself:

a. Does the site provide a clear overview of what it does contain?

b. Is it obvious what the site does not contain?

c. Does the site contain a map or table of contents that allows you to see what you have seen and not seen?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

9. This site exemplifies good web design.

Sub-questions to ask yourself:

a. Is it obvious how to interact with this site?

b. If needed, does the site contain a useful help section?

c. Are all the possible interactions on a page obvious?

d. Is the page aesthetically appealing?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

10. This site is a reliable source of information.

Sub-questions to ask yourself:

a. How often is the site down when you try to access it?

b. How long does it take for the pages of the site to come up at the time of day you most likely will use it?

c. Is the site likely to remain on the Web?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

11. The constraints of this site do not outweigh its value.

Sub-questions to ask yourself:

a. Does the site require extensions that must be downloaded and may present difficulties?

b. Does the site require one specific browser (e.g., Netscape Communicator or Internet Explorer)?

c. Does the site require hardware features that you may not have (e.g., sound card)?

d. Does the site contain features that require specific systems software (e.g., Windows '95)?

e. Are any fees associated with using the site?

f. If costs are involved, can site licenses be obtained?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

12. This site protects the confidentiality of the user.

Sub-questions to ask yourself:

a. Does the site require you to submit information about yourself or your school before granting access? If so, what does it do with this information?

b. Does the site require "cookies" or other information about your system?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

APPENDIX B:

Educational Web Sites Evaluation Instrument

Harmon & Reeves – Copyright 1998

Directions: This instrument is meant to be used by teachers (pre-service or inservice) to evaluate Web sites that they might use for teaching and learning purposes with their students. Read the questions and sub-questions carefully before reviewing a site. After spending time with the site, go back through each question and rate it using the five-point scale. Sub-questions are intended to help in thinking about the major questions.

1. The information (facts and accuracy) in this site is accurate.

Sub-questions to ask yourself:

a. Does the information appear consistent with what you already know about the topic?

b. Does the site provide evidence that it comes from reputable sources?

c. Does the site contain any obvious biases, or is it maintained by an organization likely to have strong biases?

d. Does the site contain advertising that might limit the nature of the content?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

2. The information (facts and accuracy) in this site is current.

Sub-questions to ask yourself:

a. Is the information subject to change or is the content relatively stable?

b. If subject to change, when was the site last updated? Does the information appear up-to-date?

c. Does the site indicate version updates or content revisions?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

3. The content (instructional materials) in this site is sufficient in scope.

Sub-questions to ask yourself:

a. Does this site contain sufficient breadth and depth of information related to your needs?

b. Does this site contain sufficient breadth and depth of information related to the topics it claims to cover?

c. Does the site include real-world applications or case studies?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

4. The level of content (instructional materials) in this site is appropriate for learners.

Sub-questions to ask yourself:

a. Does the site contain content appropriate for learners' level of understanding and experiences with respect to their maturity?

b. Does the site contain content appropriate for learners with respect to their cognitive abilities?

c. Does the site contain content appropriate for your learners with respect to their prior knowledge of the topic?

d. Does the site support different learning styles through varied instructional methods (e.g., video, text, hands-on exercises)?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

5. The content (instructional materials) in this site is presented clearly.

Sib-questions to ask yourself:

a. Is the content arranged in an orderly fashion?

b. Is the content presented clearly?

c. Are key concepts explained with examples or illustrations?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

6. Navigation on this site is user-friendly.

Sub-questions to ask yourself:

a. How easy is it to find content on this site?

b. How easy is it to move around on this site without getting lost?

c. Does the site provide multiple ways of accessing the same content (e.g., does the site have a built-in search capability)?

d. Are navigation menus and toolbars clearly labeled and intuitive?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

7. Media is integrated effectively in this site.

Sub-questions to ask yourself:

a. Does the site make good use of graphics? Audio? Animation? Video?

b. Is the media used effectively in conveying the content?

c. Is the content in the site enhanced by the media in it?

d. Are interactive exercises, such as coding environments or simulations, available to reinforce learning?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

8. This site provides maps that clarify the site contents.

Sub-questions to ask yourself:

a. Does the site provide a clear overview of what it does contain?

b. Is it obvious what the site does not contain?

c. Does the site contain a map or table of contents that allows you to see what you have seen and not seen?

d. Does the site offer guided learning paths or progress tracking?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

9. This site exemplifies good web design.

Sub-questions to ask yourself:

a. Is it obvious how to interact with this site?

b. If needed, does the site contain a useful help section?

c. Are all the possible interactions on a page obvious?

d. Is the page aesthetically appealing?

e. Is the site responsive and mobile-friendly?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

10. This site is a reliable source of information (facts and accuracy).

Sub-questions to ask yourself:

a. How often is the site down when you try to access it?

b. How long does it take for the pages of the site to come up at the time of day you most likely will use it?

c. Is the site likely to remain on the Web?

d. Is there a reputable institution or organization backing the site?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

11. The constraints of this site do not outweigh its value.

Sub-questions to ask yourself:

a. Does the site require extensions that must be downloaded and may present difficulties?

b. Does the site require one specific browser (e.g., Netscape Communicator or Internet Explorer)?

c. Does the site require hardware features that you may not have (e.g., sound card)?

d. Does the site contain features that require specific systems software (e.g., Windows '95)?

e. Are any fees associated with using the site?

f. If costs are involved, can site licenses be obtained?

g. Are financial aid or free trials available?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

12. This site protects the confidentiality of the user/learner.

Sub-questions to ask yourself:

a. Does the site require learners to submit information about themselves or their school before granting access? If so, what does it do with this information?

b. Does the site require "cookies" or other information about learners' systems?

c. Does the site comply with standard privacy policies and security measures?

Not Applicable	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
N/A	-2	-1	0	1	2

Additional comments:

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